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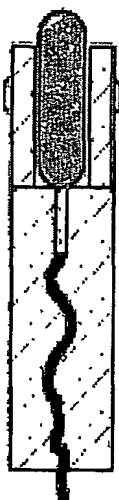
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(88) Date of publication of the international search report:
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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHOD FOR GRADING A SERIES OF SHOE LASTS DISTRIBUTED ON A SERIES OF SIZES STARTING FROM A BASE LAST AND SHOE LAST SO OBTAINED

(57) Abstract: The invention relates to a new method for developing a series of shoe lasts starting from a base shoe last provided in a basic footwear size. The method comprises the following steps: - measuring the spatial coordinates (X_B , Y_B , Z_B) of points on the base shoe last (2) of basic footwear size using gauges (15) associated with a first computer means (10) on which CAD programs are run; - obtaining, from the spatial coordinates (X_B , Y_B , Z_B) of points on the base shoe last (2) of basic footwear size, spatial coordinates (X_n , Y_n , Z_n) of points on at least another shoe last in the series, by using predetermined calculation formulae entered to said computer means, the so-called grading step; - feeding an NC tool machine with said spatial coordinates (X_n , Y_n , Z_n) of points on at least another shoe last in the series for the manufacturing thereof; - using the information contained in the memory, physically installed in each shoe last or accessible by means of its code, to design the footwear component parts and properly assembling them at the production stage.



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A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A43D1/04 G05B19/4097 A43D3/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A43D G05B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 311 925 A (SHAFIR AARON) 19 April 1989 (1989-04-19) the whole document ---	1,18, 21-24
A	US 5 237 520 A (WHITE JAY P) 17 August 1993 (1993-08-17) the whole document ---	1,18,19
A	EP 0 689 778 A (VILAR DIAZ ADOLFO) 3 January 1996 (1996-01-03) column 8, line 22 -column 9, line 33 ---	20
A	FR 2 365 975 A (SALOMON & FILS F) 28 April 1978 (1978-04-28) the whole document ---	10-16
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Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
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- "O" document referring to an oral disclosure, use, exhibition or other means
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"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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"&" document member of the same patent family

Date of the actual completion of the international search

7 July 2003

Date of mailing of the international search report

17. 10. 03

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INTERNATIONAL SEARCH REPORT

International Application No

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>US 5 164 793 A (WOLFERSBERGER CHARLES ET AL) 17 November 1992 (1992-11-17) the whole document</p> <p>-----</p>	14-16

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-25

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0311925 A	19-04-1989	US 4817222 A CA 1311285 C IL 87971 A JP 1160501 A KR 9606292 B US 4884309 A	04-04-1989 08-12-1992 16-09-1991 23-06-1989 13-05-1996 05-12-1989
US 5237520 A	17-08-1993	US 5128880 A AT 112668 T AU 646402 B AU 6155090 A CA 2082518 A,C DE 69013364 D DE 69013364 T EP 0527732 A JP 2989664 B JP 5507211 T WO 9117708 A	07-07-1992 15-10-1994 24-02-1994 10-12-1991 12-11-1991 17-11-1994 16-02-1995 24-02-1993 13-12-1999 21-10-1993 28-11-1991
EP 0689778 A	03-01-1996	ES 2074964 A ES 2111432 A ES 2109853 A WO 9519719 A	16-09-1995 01-03-1998 16-01-1998 27-07-1995
FR 2365975 A	28-04-1978	CH 619603 A DE 2720259 A JP 53017459 A	15-10-1980 17-11-1977 17-02-1978
US 5164793 A	17-11-1992	NONE	